

Speed-feedback therapy in elderly cancer patients

- mood, and quality of life. *J Clin Oncol* 2006;**24**:1415–1420.
12. Cole RP, Scialla SJ, Bednarz L. Functional recovery in cancer rehabilitation. *Arch Phys Med Rehabil* 2000;**81**:623–627.
 13. Ahles TA. Brain vulnerability to chemotherapy toxicities. *Psycho-Oncology* 2012;**21**:1141–1148.
 14. Kvale EA, Clay OJ, Ross-Meadows LA *et al*. Cognitive speed of processing and functional declines in older cancer survivors: an analysis of data from the ACTIVE trial. *Eur J Cancer Care* 2010;**19**:110–117.
 15. Ootani M, Nara I, Kaneko F, Okamura H. Construction of a speed feedback therapy system to improve cognitive declines in elderly people with dementia: a preliminary report. *Dement Geriatr Cogn Disord* 2005;**20**:105–111.
 16. Kaneko F, Hirasawa R, Funaki Y, Okamura H. Effect of speed-feedback exercise using a bicycle ergometer on physical and mental functions among infirm elderly people. *Asian Journal of Psychiatry* 2011;**4**:S75.
 17. Dubois B, Slachevsky A, Litvan I, Pillon B. The FAB: a Frontal Assessment Battery at bedside. *Neurology* 2000;**55**:1621–1626.
 18. Nakaaki S, Murata Y, Sato J *et al*. Reliability and validity of the Japanese version of the Frontal Assessment Battery in patients with the frontal variant of frontotemporal dementia. *Psychiatry and clinical neurosciences* 2007;**61**:78–83.
 19. Miki E, Kataoka T, Okamura H. Clinical usefulness of the Frontal Assessment Battery at bedside (FAB) for elderly cancer patients. *Support Care Cancer* 2013;**21**:857–862.
 20. Mahoney FI, Barthel DW. Functional evaluation: the Barthel Index. *Md State Med J* 1965;**14**:61–65.
 21. Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist* 1969;**9**:179–186.
 22. Cella DF, Tulskey DS, Gray G *et al*. The Functional Assessment of Cancer Therapy scale: development and validation of the general measure. *J Clin Oncol* 1993;**11**:570–579.
 23. Rowe J, Friston K, Frackowiak R, Passingham R. Attention to action: specific modulation of corticocortical interactions in humans. *Neuroimage* 2002;**17**:988–998.
 24. Winocur G, Vardy J, Binns MA, Kerr L, Tannock I. The effects of the anti-cancer drugs, methotrexate and 5-fluorouracil, on cognitive function in mice. *Pharmacol Biochem Behav* 2006;**85**:66–75.
 25. Joly F, Rigal O, Noal S, Giffard B. Cognitive dysfunction and cancer: which consequences in terms of disease management? *Psycho-Oncology* 2011;**20**:1251–1258.

Effectiveness of collage activity based on a life review in elderly cancer patients: A preliminary study

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ABSTRACT

Objective: Much of the cancer rehabilitation research that has been conducted has consisted of relatively early recovery-of-function rehabilitation, and little attention has been paid to the psychosocial aspects of palliative rehabilitation. The aim of the present preliminary study was to examine the “narratives” of elderly cancer patients that emerged as a result of a life review performed in association with collage activity and to assess the effectiveness of this intervention.

Method: We conducted a collage activity based on a life review in two sessions. Some 11 cancer patients who were 65 years of age or older and receiving palliative care participated. Evaluations using the Functional Assessment of Chronic Illness Therapy–Spiritual (FACIT–Sp) Scale, the Hospital Anxiety and Depression Scale (HADS), and the Self-Efficacy Scale for Terminal Cancer (SESTC) were administered before and immediately after the intervention.

Results: The mean scores for the FACIT–Sp and affect regulation efficacy on the SESTC significantly increased, while the mean HADS score significantly decreased. Regarding the impressions after completion of the intervention, generally favorable evaluations were heard from families and medical staff members as well as from the subjects.

Significance of results: A collage activity based on a life review may be effective for improving spiritual well-being, mitigating anxiety and depression, and improving self-efficacy. The collage itself was also useful in facilitating interactions with others, including family members, and the activity provided psychological support for families.

KEYWORDS: Collage activity, Elderly, Life review, Palliative care, Occupational therapy

INTRODUCTION

The use of rehabilitation to improve the quality of life (QoL) of cancer patients has attracted interest in recent years. However, much of the cancer rehabilitation research that has been conducted has consisted of relatively early recovery-of-function rehabilitation, and little research on maintenance or palliative rehabilitation has been performed. Hamaguchi and coworkers (2008) conducted a fact-finding survey examining cancer rehabilitation at 1045 institutions in Japan and reported that physical function training

accounted for a high proportion of cancer rehabilitation efforts, while little attention was directed toward spiritual or psychological suffering. While some research has certainly shown improvement in activities of daily living (ADL) in response to rehabilitation, decreases in function and reduced ADL are inevitable as cancer progresses. Moreover, the prevalence of depression appears to be especially elevated in patients with advanced cancer (Caplette-Gingras & Savard, 2008). Thus, attending to the psychological aspects of cancer is an important task.

In light of this situation, the importance of rehabilitation approaches based on psychosocial aspects aimed at maintaining and improving cancer patients' QoL is now attracting attention (Ronson, 2002). One of these approaches, a life review, is a type of

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reminiscence method, which was developed by Butler (1963) as a psychological support technique. This activity has been shown to be effective in relation to a patient's degree of life satisfaction, psychological well-being, depressed mood, and self-esteem (Hanaoka & Okamura, 2004). The reminiscence method has been shown to be a promising intervention method in cancer patients. However, there are relatively few studies concerning the reminiscence method for cancer patients. Wholihan (1992) demonstrated the effectiveness of utilizing a patient's photo albums or treasured objects. In Japan, Ando et al. (2007a,b) conducted several studies examining topics and programs for application of the reminiscence method in cancer patients. Out of consideration for the physical burden on patients, Ando et al. (2008) also developed a brief reminiscence method that can be completed in two interviews, and showed that the spiritual well-being, anxiety, and depression of terminal-stage cancer patients improved as a result of its application (Ando et al., 2010a,b). However, because the therapists produced the albums in this brief reminiscence method, no benefits were gained from enabling patients to leave behind a product that they themselves had created or from the experience of working through an actual activity. Regarding the benefits of having the subjects themselves participate in the activities, Chochinov et al. (2002a,b; 2005; 2011) demonstrated the effect of dignity therapy on distress and quality of life in terminally ill patients. Dignity therapy involves two or three shorter sessions. Patients review their lives with the aid of routine questions, and the session is recorded, edited, and transcribed. Hall and colleagues (2013) indicated that the most frequently perceived benefits of dignity therapy related to reminiscence, and that dignity therapy gave patients the opportunity to recall happy memories they could share with their families.

"Collage," on the other hand, affords the experience of an activity that has been employed widely in occupational therapy. "Collage" is a French term that means "pasting." It is produced by cutting existing images out of magazines, pamphlets, and the like, using scissors, rearranging the images on a posterboard, and then pasting the images onto the board. Collage came into being as an artistic technique in the early 1900s. It has the special characteristic of stimulating self-expression, and it is said to be capable of mitigating anxiety and conflicts experienced by patients, eliciting a positive mood and emotions (Aida et al., 2010). In the area of cancer care, Williams (2002) mentioned the use of collage in end-of-life care, and Forzoni (2010) recently investigated and reported on the use of collage in cancer patients. Another study reported the use of a combi-

nation of collage and the reminiscence method in elderly subjects. However, that study did not focus on the effectiveness of the activity, but rather centered on the reminiscence method itself.

Life review usually consists mainly of "talks" generated by the review. The subjects may check albums and other works prepared by therapists, but they do not create works using their own hands and bodies, and their intentions are not reflected in their works. However, it has been pointed out that patients' "feelings" are often sublimated by expressing them in "things (works and activities)." Therefore, we thought we might be able to expect changes in the subjects by having them create works using a collage along with life review, which could increase one's sense of self-affirmation and is effective for spiritual pain, and creative activities, which are said to promote self-expression, thereby leading to affirmative feelings and emotions, and by preserving the works.

The aim of the present study was to examine the "narrative" of elderly cancer patients that emerged as a result of a life review involving the production of a collage and to assess the effectiveness of this activity in relation to the psychosocial and spiritual aspects of their lives, as well as its impact on their experiences.

MATERIALS AND METHODS

Our study was conducted with the approval of the ethics committee of the Graduate School of Health Sciences of Hiroshima University.

Participants

The subjects of our study included patients receiving home-visit nursing care, patients in the palliative care unit of a rehabilitation hospital who were receiving palliative care, and patients visiting a clinic who were receiving palliative care at home. All the subjects met the following eligibility criteria: (1) elderly cancer patient aged 65 years or over, (2) capable of understanding the nature of the study and the contents of the question sheets (no cognitive problems), and (3) consent of the attending physician allowing the patient's participation in the study.

Intervention Method

Ando and colleagues (2008) previously developed a brief reminiscence method that can be completed in two sessions and suggested that the method was effective for improving both the spiritual and psychosocial aspects of a patient's condition. The content of the interviews is mainly based on a structured life review but does not parallel developmental stages. Out of consideration for the physical burden that the

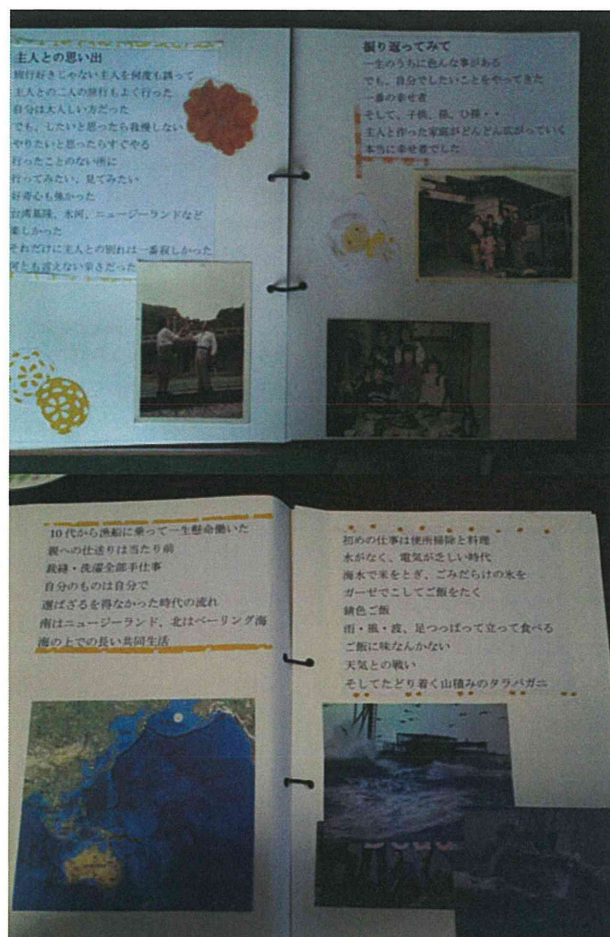


Fig. 1. (Color online) Example of a finished collage product. (**Upper left**)

[Memories of my husband]

Many times I invited my husband for a trip although he did not like traveling, and I and my husband had many trips.
I was rather quiet.
But if I wanted to do something, I did it immediately.
I wanted to go and see places I had never been before.
I also had strong curiosity.
It was fun visiting Keelung, Taiwan, glaciers, New Zealand, etc.
I felt more lonely because of my husband's death. It was painful beyond description.

(**Upper right**)

[When I look back]

We experience various things in our lives.
But I have done what I wanted to do.
I am the happiest person.
And children, grandchildren, great grandchildren...
A family made by my husband and myself is expanding and expanding.
I have been really happy.

(**Lower left**)

I have boarded fishing boats since I was in my teens, and I have worked hard.
It was a matter of course to send money to my parents.
I did all the sewing and washing with my hands.
I prepared my things by myself.
The flow of time we had to choose.
I went south to New Zealand and north to the Bering Sea.

(**Lower right**)

My first job was toilet cleaning and cooking.
An era when there was no water and little electricity.
Rice was washed with seawater, and rice with a lot of debris was filtered with gauze and boiled.
The rice had no taste at all. Embattled by the weather.
And, finally, we got a pile of king crab.

intervention method would impose on the elderly subjects in our study, we configured the sessions based on the following brief reminiscence method. Before the intervention, we conducted an orientation in which we introduced ourselves, explained the nature of the study, and confirmed the patient's consent to participate in the study. We then conducted the first life review session as follows.

(Content of the Interview)

- What do you think is most important in life?
- What memory in life has left the greatest impression?
- What was the turning point in your life? If there was an event or person that influenced you. Would you mind telling me what or who that was?
- What sort of role do you feel you have played in life?
- Is there something in your life that you feel proud of?
- If you were to express life in a single word, what word would express it best?
- Were any words or advice ever said to you by a person who was important to you?

During the week after the first interview, the authors summarized the spoken content using a word-for-word record and divided it into paragraphs, and then collected images from magazines, the Internet, and the library that reflected the spoken content. During the second session, while matching photographs that the subject had to the images that had been collected, an independent collage activity was performed with the help of the therapist, and the selected images and photographs were arranged in a single booklet (see Figure 1).

Measures

Sociodemographic and Medical Variables

Age, sex, family makeup, current residence, disease site, performance status (PS), and whether or not the subject was experiencing pain were assessed as sociodemographic and medical information.

ADL: Barthel Index

The Barthel Index was created in 1965 by Mahoney and Barthel (1965). Ratings are made based on 10 items (Ito & Kamakura, 1994), and the maximum score is 100. A special feature of this index is that the scores for each item are weighted according to the time and amount of nursing care required.

QoL: Functional Assessment of Chronic Illness Therapy–Spiritual (FACIT–Sp)

The FACIT–Sp is part of a self-report that was developed by Cella and colleagues (1993). It consists of 12 items and is composed of 2 main factors: Meaning of Life/Peace and Faith. The Japanese-language version was developed by Shimotsuma (2002), and its reliability and validity have been confirmed (Noguchi et al., 2004).

Anxiety and Depression: Hospital Anxiety and Depression Scale (HADS)

The HADS is a self-rated scale developed by Zigmond and Snaith (1983) to measure anxiety and depression. It consists of 14 items, and possible total scores for anxiety and depression each range from 0 to 21. The reliability and validity of the Japanese-language version (Kitamura, 1993) were confirmed by Kugaya et al. (1998).

Self-Efficacy: Self-Efficacy Scale for Terminal Cancer

The Self-Efficacy Scale for Terminal Cancer (SESTC) was devised by Hirai and coworkers (2002) and is composed of three subscales: “Affect Regulation Efficacy” (ARE), “Symptom Coping Efficacy” (SCE), and “ADL Efficacy” (ADE). There are 18 items in the full scale. Higher scores are considered to indicate greater self-efficacy.

Procedure

Physicians and nurses gave an oral explanation of the nature of the activity in advance to patients who were receiving palliative care between July 11 and December 28, 2011, and who met the eligibility criteria. The first author then visited the home or room of the patients who consented to participate and provided a written explanation of the purpose and methods of the study to each patient.

Scheduling of interviews was selected so as not to interfere with the conduct of patients' treatment or care, and the place selected was the bedside, day room, or rehabilitation room. If the patient had difficulty filling out the self-reported question sheets because of a physical problem, the author read the questions aloud to the subject and then the author and subject filled out the sheets together.

The evaluation forms were collected before the first session, and the first life review interview was then conducted. The content of the interview was recorded using an audio recorder. Whenever necessary, information was also collected from the patient's chart. The second session was held one week later.

At the end of the second session, the subject was asked to fill out the evaluation sheets again, and the evaluations were again collected.

Analysis

Statistical Analysis

After confirming the normality of the data, the changes in FACIT-Sp, HADS, and SESTC scores before and after the collage activity were analyzed using a paired *t* test.

Summaries of Impressions

After completing the collage, the impressions of the subjects, families, and medical staff members regarding the intervention were obtained and summarized separately. The *p* values for all the tests were two-tailed, and a *p* value less than 0.05 was considered significant. The Statistical Package for Social Science (SPSS, version 17.0 J for Windows) was employed to perform all statistical analyses.

RESULTS

Subjects' Participation and Background of the Participants

Some 15 patients met the eligibility criteria during the study period, and consent was obtained from 13 patients. The reasons why consent was not obtained from the other two patients included "I'm not good at details," "It's a lot of trouble," "I feel reluctant to talk to a stranger," and "I don't want to think about it." The reasons given by one patient who initially consented but later refused prior to the actual performance of the intervention were "I don't want to talk about the terrible past" and "Doing this in the form of research would be too restricting for me." During the collage activity, one patient read the life story that the therapist had summarized from the narrative and then reminisced extensively. Upon trying to give them the memories form, however, the patient looked at the album and gave up on the collage activity, saying, "I could never finish in just one day." Thus, the intervention was ultimately completed in 11 subjects. The time allotted to conduct each session of the intervention in this study was about one hour. However, because in many cases it took much longer, the mean length of the first session was 84.5 ± 20.0 minutes, and the mean length of the second session was 93.6 ± 38.6 minutes. None of the subjects subsequently complained of not feeling well.

Table 1. Background data for the 11 subjects who completed the intervention

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10	Case 11
Age	73	72	70	82	85	67	76	74	80	65	87
Gender	Female	Male	Female	Male	Male	Male	Male	Male	Male	Female	Female
Current residence	Home	Hospital	Hospital	Home	Hospital	Hospital	Home	Home	Hospital	Hospital	Hospital
Marital status	Married	Married	Unmarried	Married	Married	Married	Married	Married	Married	Married	Married
Cancer site	Thyroid	Lung	Ovary	Lung	Colon	Lung	Liver	Stomach	Gallbladder	Lung	Lymphoma
Performance status	2	1	1	3	2	4	2	4	2	3	2
Pain	Absence	Absence	Presence	Presence	Presence	Presence	Presence	Presence	Absence	Presence	Absence
Barthel Index	100	100	100	85	95	45	85	45	100	85	80
FACIT-Sp	36	25	27	21	33	28	20	8	26	24	37
HADS	7	18	7	10	4	16	11	23	19	7	6
SESTC	54	101	139	113	150	91	133	87	107	89	113
Length of first session (min)	105	93	125	55	88	86	80	91	80	68	59
Length of second session (min)	113	100	133	65	96	33	140	125	128	44	53

FACIT-Sp: Functional Assessment of Chronic Illness Therapy-Spiritual; HADS: Hospital Anxiety and Depression Scale; SESTC: Self-Efficacy Scale for Terminal Cancer.

The background data on the 11 subjects who completed the intervention (7 males, 4 females; mean age 75.54 ± 7.2 years), their baseline FACIT–Sp, HADS, and SESTC scores, and the time required to complete sessions are presented in Table 1.

Changes in Evaluation Scale Scores

An examination of the changes in FACIT–Sp scores before and after the intervention showed that the mean score for Meaning of Life/Peace changed from 17.0 ± 5.3 to 22.8 ± 5.3 ($p = 0.004$), the mean score for Faith changed from 8.6 ± 3.2 to 12.0 ± 3.0 ($p = 0.001$), and the mean total score changed from 25.9 ± 8.1 to 34.9 ± 17.5 ($p = 0.002$).

An examination of the changes in HADS scores before and after the intervention showed that the mean score for anxiety changed from 5.6 ± 4.6 to 2.8 ± 2.0 ($p = 0.034$), the mean score for depression changed from 6.0 ± 2.4 to 3.6 ± 2.5 ($p = 0.042$), and the mean total score changed from 11.6 ± 6.3 to 6.4 ± 3.7 ($p = 0.026$).

Table 2. Impressions of subjects

In relation to the intervention:

- Now, I feel that doing this was really worthwhile.
- My gloomy feelings have lifted.
- For the first time in a long time I became completely absorbed, and I put all my energy into making it.
- I feel that this activity serves as a link between those who are living and those who will die.
- While I was making this, I completely forgot about my illness.

In relation to the life review:

- I nostalgically recalled things in the past.
- There has never been an opportunity to think so deeply and to try to recall the past.
- I was able to look back at how I had lived my life.
- I can't bring myself to say so to my son, but I came to feel grateful to him.

In relation to the product:

- I'm glad that I was able to make something that contains so much of my feelings.
- I think it will be a treasure at home.
- This is the best present we could give to our family in the condition we are in now.
- Making it as the two of us consulted with each other was fun.
- Making things is fun.

Table 3. Impressions of family members and medical staff

Impressions of family members:

- I think this is what mental rehabilitation is.
- I was moved.
- The patient was pleased, saying, "I'm glad I made it."
- It's something that's full of the patient.
- There were so many thoughts in this home!

Impressions of medical staff:

- It was good to see the patient speaking happily.
- The family was happy, too.
- I realized that there was another side of the patient.
- I really understood what it was that the patient cared about.
- It is difficult to explain collages to patients.

An examination of the changes in SESTC scores before and after the intervention showed that, while the mean score for ARE increased significantly from 30.6 ± 16.0 to 39.0 ± 11.5 ($p = 0.040$), no significant differences in mean scores for SCE ($p = 0.967$) or ADE ($p = 0.208$) or total mean scores ($p = 0.284$) were observed.

Impressions of the Intervention

Some of the summations of the impressions of the subjects, families, and medical staff members after completion of the intervention are given in Tables 2 and 3, where one can see that generally favorable evaluations were heard from family members and medical staff as well as from subjects. However, several participants had not grasped the full picture before the start of the collage activity, and this limitation is also listed as an impression.

DISCUSSION

As a result of performing the collage activity based on a life review, the FACIT–Sp scores of the 11 subjects in this study increased significantly, while their HADS scores decreased significantly. These results suggest that the intervention can be effective in increasing the spiritual well-being of patients, similar to the findings of previous studies (Ando et al., 2007a,b; 2008; 2010a,b). Our results also suggest that the intervention may be simultaneously effective for mitigating anxiety and depression. Moreover, the score for the ARE subscale of the SESTC also

increased significantly. Hirai and colleagues (2002) regarded improvements in the scores for this subscale to be a primary factor with direct effects on anxiety and depression. The level of self-efficacy has also been widely reported (Ewart, 1995; Beckham et al., 1997) to affect psychological adjustment, as corroborated by the results of our present study. Bandura (1977) explained self-efficacy as a subjective determination that "I am capable of doing this," and the "successful experience" of "even I can do that" was remarked upon among the impressions expressed after the intervention. It is suggested that this boost in confidence felt by subjects was linked to the increase in scores for this scale.

By contrast, no significant changes in feelings of efficacy in relation to physical symptoms or ADL were seen. This finding regarding feelings of efficacy as they relate to physical symptoms may have been attributable to the fact that none of the patients in this study complained of cancer pain severe enough to require the intervention to be stopped before completion, and symptom control in these patients was relatively good. Many participants had sufficient stamina to concentrate and spend time performing the life review and collage activity beyond the time that had been scheduled. The mean Barthel Index score before the intervention was 83.6 ± 20.5 , and the fact that subjects' original ADL capacity was relatively high might have been related to the results for efficacy in relation to the ADL. In particular, after excluding the subjects with a PS of four, the ADL of the nine remaining subjects was high, and they were able to perform basic body movements and their own body care movements independently.

According to the impressions of the subjects after completion of the intervention, their memories and past experiences were recalled, and most of the subjects spoke animatedly, saying that the intervention created feelings of nostalgia. Moreover, while looking at the finished product, some subjects evaluated the product highly, saying that it was a "treasure" or their "best present," and some said that by becoming engrossed in the collage activity they had forgotten about their illness, if only for a short time, and that they had been able to spend time in a meaningful way. These impressions were thought to have been affected by an improvement in the subjects' state of mind as a result of the self-affirmation and self-esteem created by the collage activity, during which the subjects enjoyed expressing themselves. Moreover, since the impression that "this activity serves as a link between those who are alive with those who will die" was also expressed, discussions of the continuity of relationships and one's own impermanence might have contributed to the spiritual care that is involved in relationships.

Among the impressions of the families who participated in the collage activity together with the subject, there were descriptions of the intervention as a "spiritual rehabilitation," and the family members thought favorably of the intervention, saying that the subjects themselves had enjoyed the activity. In addition, subjects' family members stated that they discovered new aspects of the subjects through this activity and that this activity was an opportunity for them to renew their knowledge of the subjects' feelings. It is said that people do not often express their feelings to others in Japan as compared to the situation in other countries (Benedict, 2006). Therefore, this activity seems to be more deeply significant as a tool with which subjects and their families communicate each other's feelings. As an approach to the family, Tajiri and colleagues (2006) pointed out that creating the product by working with and drawing closer to the patient is linked to a sense of achievement, and that in many cases the feeling of satisfaction of having been able to do something for the patient had an effect with regard to their psychological care. Thus, this activity may have also provided psychological care for the family as well. The results may be a possible avenue for future research. Furthermore, impressions were heard from the medical staff members that they had discovered new aspects of the subjects through the finished product, and that they had reconfirmed that it was something the subjects considered important. Moreover, the product was shown to not only link the subject and family as a means of communication, but also to have served as a topic for interaction between the staff and the subject.

This study has some limitations. The first is that, although only self-reported question sheets were used to evaluate the results of an intervention, whenever it was difficult for the subject to fill out the sheets because of physical problems the author read the questions aloud to the subject, and sometimes they read through the questions and filled out the sheets together. As a result, the evaluation methods sometimes varied according to the evaluator, and several biases may have occurred as a result. Second, because a control group was not included, the results may not be attributable to only the collage activity. The use of a control group and a controlled study design is needed for future studies. Third, no psychosocial changes over time were demonstrated after the product was completed. A detailed follow-up in addition to evaluations before and after performing the collage activity are needed. Finally, we configured the sessions based on the brief reminiscence method to avoid taxing patients. However, the possibility of adequately reviewing a life in such a short period of time is not clear. It should be better

to have a greater number of smaller interviews where more adequate information could be gathered without overtaxing patients.

CONCLUSIONS

The possibility of objective and subjective effectiveness of a collage activity based on a life review was demonstrated in elderly cancer patients. Our results suggest that collage activity can be effective in improving spiritual well-being, mitigating anxiety and depression, and improving self-efficacy. In addition, in terms of the impact of the work activity on subjects and their family members, the product was shown to be useful as a tool for interacting with others, including family members, and that the activity was capable of providing psychological care to family members who performed the activity together with the subject. Future studies are needed where the activity is actually put into practice so that the link between a collage activity based on a previous life review and an improvement in the quality of life of patients and their families can be clarified as a useful psychosocial approach to treatment of elderly cancer patients.

REFERENCES

- Aida, Y., Okamura, T., Takenouchi, S., et al. (2010). The effects of intervention using collage in long-stay psychiatric inpatient groups [in Japanese]. *Journal of Japanese Occupational Therapy Association*, 29, 60–72a.
- Ando, M., Tsuda, A. & Morita, T. (2007a). Life review interviews on the spiritual well-being of terminally ill cancer patients. *Supportive Care in Cancer*, 15, 225–231.
- Ando, M., Morita, T. & O'Connor, S.J. (2007b). Primary concerns of advanced cancer patients identified through the structured life review process: A qualitative study using a text mining technique. *Palliative & Supportive Care*, 5, 265–271.
- Ando, M., Morita, T., Okamoto, T., et al. (2008). One-week short-term life review interview can improve spiritual well-being of terminally ill cancer patients. *Psycho-Oncology*, 17, 885–890.
- Ando, M., Morita, T., Akechi, T., et al. (2010a). Japanese Task Force for Spiritual Care: Efficacy of short-term life-review interviews on the spiritual well-being of terminally ill cancer patients. *Journal of Pain and Symptom Management*, 39, 993–1002.
- Ando, M., Morita, T., Miyashita, M., et al. (2010b). Effects of bereavement life review on spiritual well-being and depression. *Journal of Pain and Symptom Management*, 40, 453–459.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 195–215.
- Beckham, J.C., Burker, E.J. & Lytle, B.L. (1997). Self-efficacy and adjustment in cancer patients: A preliminary report. *Behavioral Medicine*, 23, 138–142.
- Benedict, R. (2006). *Chrysanthemum and the sword: Patterns of Japanese culture*. Boston: Mariner Books.
- Butler, R.N. (1963). The life review: An interpretation of reminiscence in the aged. *Psychiatry*, 26, 65–76.
- Caplette-Gingras, A. & Savard, J. (2008). Depression in women with metastatic breast cancer: A review of the literature. *Palliative & Supportive Care*, 6, 377–387.
- Cella, D., Tulskey, D.S. & Gray, G. (1993). The Functional Assessment of Cancer Therapy (FACT) Scale: Development and validation of the general measure. *Journal of Clinical Oncology*, 11, 1407–1418.
- Chochinov, H.M., Hack, T., Hassard, T., et al. (2002a). Dignity in the terminally ill: A cross-sectional, cohort study. *Lancet*, 360, 2026–2030.
- Chochinov, H.M., Hack, T., McClement, S., et al. (2002b). Dignity in the terminally ill: A developing empirical model. *Social Science & Medicine*, 54, 433–443.
- Chochinov, H.M., Hack, T., Hassard, T., et al. (2005). Dignity therapy: A novel psychotherapeutic intervention for patients near the end of life. *Journal of Clinical Oncology*, 23, 5520–5525.
- Chochinov, H.M., Kristjanson, L.J., Breitbart, W., et al. (2011). Effect of dignity therapy on distress and end-of-life experience in terminally ill patients: A randomised controlled trial. *Lancet Oncology*, 12, 753–762.
- Ewart, C.K. (1995). Self-efficacy and recovery from heart attack: Implication for a social cognitive analysis of exercise and emotion. In *Self-efficacy, adaptation, and adjustment: Theory, research, and application*. J.E. Maddux (ed.), pp. 203–226. New York: Plenum Press.
- Forzoni, S. (2010). Art therapy with cancer patients during chemotherapy sessions: An analysis of the patients' perception of helpfulness. *Palliative & Supportive Care*, 8, 41–48.
- Hall, S., Goddard, C., Speck, P.W., et al. (2013). "It makes you feel that somebody is out there caring": A qualitative study of intervention and control participants' perceptions of the benefits of taking part in an evaluation of dignity therapy for people with advanced cancer. *Journal of Pain and Symptom Management*, 45, 712–725.
- Hamaguchi, T., Okamura, H., Nakaya, N., et al. (2008). Survey of the current status of cancer rehabilitation in Japan. *Disability and Rehabilitation*, 21, 1–6.
- Hanaoka, H. & Okamura, H. (2004). Study on effects of life review activities on the quality of life of the elderly: A randomized controlled trial. *Psychotherapy and Psychosomatics*, 73, 302–311.
- Hirai, K., Suzuki, Y. & Tsuneto, A. (2002). Development of the self-efficacy scale for terminally ill cancer patients [in Japanese]. *Japanese Journal of Psychosomatic Medicine*, 41, 19–27.
- Ito, T. & Kamakura, N. (1994). *ADL and its related fields* [in Japanese]. Tokyo: Igaku-shoin.
- Kitamura, T. (1993). Hospital Anxiety and Depression Scale [in Japanese]. *Archives of Psychiatric Diagnosis and Clinical Evaluation*, 4, 371–372.
- Kugaya, A., Akechi, T., Okuyama, T., et al. (1998). Screening for psychological distress in Japanese cancer patients. *Japanese Journal of Clinical Oncology*, 28, 333–338.
- Mahoney, F.I. & Barthel, D.W. (1965). Functional evaluation: The Barthel Index. *Maryland State Medical Journal*, 14, 61–65.
- Noguchi, W., Ohno, T., Morita, S., et al. (2004). Reliability and validity of the Functional Assessment of Chronic Illness Therapy–Spiritual (FACIT–Sp) Japanese Version in Cancer Patients [in Japanese]. *Japanese Journal of General Hospital Psychiatry*, 16, 42–47.

- Ronson, A. (2002). Psychosocial rehabilitation of cancer patients after curative therapy. *Supportive Care in Cancer*, 10, 281–291.
- Shimotsuma, K. (2002). Cross-cultural adaptability of QOL scales for cancer patients [in Japanese]. *Stress Science Research*, 17, 97–104.
- Tajiri, H., Ichikawa, R. & Tsuji, T. (2006). Practice of rehabilitation in a palliative care unit [in Japanese]. In *Cancer rehabilitation*. T. Tsuji et al. (eds.), pp 548–555. Tokyo: Kanehara-shuppan.
- Wholihan, D. (1992). The value of reminiscence in hospice care. *American Journal of Hospice & Palliative Care*, March/April, 33–35. Available at <http://ajh.sagepub.com/content/9/2/33.extract>.
- Williams, B. (2002). Using collage art work as a common medium for communication in interprofessional workshops. *Journal of Interprofessional Care*, 16, 53–58.
- Zigmond, A.S. & Snaith, R.P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*, 67, 361–370.

原 著

Original article

Influence of alexithymia on the prognosis of patients with major depression

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Abstract : Background: Alexithymia has been reported to hinder psychotherapeutic outcome. However, whether alexithymia influences the pharmacotherapeutic outcome of patients with major depression is unknown. The purpose of this study was to explore whether alexithymia predicts the prognosis of major depression patients treated with pharmacotherapy.

Methods: A prospective study was undertaken in 26 inpatients with major depression. Patients were treated with pharmacotherapy in a naturalistic setting. At baseline, the patients' scores on the 20-item Toronto Alexithymia Scale (TAS-20) and the Zung Self-rating Depression Scale (SDS) and other socio-demographic and medical data were obtained. Six months after discharge, outcome data (presence or absence of being at work and presence or absence of readmission after discharge) were obtained.

Results: A logistic regression analysis revealed that low TAS-20 scores and being unmarried were associated with being at work at 6 months after discharge in the participants. No factor was significantly associated with the presence of readmission in this sample.

Conclusions: Our findings suggested that alexithymia might be associated with the six-month prognosis in patients with major depression treated with pharmacotherapy. Individual traits such as alexithymia should be taken into account when we formulate the strategy to improve the prognosis of patients with major depression.

Key words : Alexithymia, Major depression, Prognosis, Pharmacotherapy

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INTRODUCTION

Alexithymia is a well known psychological characteristic involving difficulty in expressing emotions and in identifying their own feelings. The concept initially evolved from clinical observations of patients with psychosomatic disorders;

the term was introduced by Nemiah and Sifneos during the early 1970s¹⁾. Alexithymia is a common condition, existing in about 10% of healthy people. It has been reported to exist at even higher rates not only in individuals with psychosomatic disease but also in those with panic disorder, posttraumatic stress disorder, eating disorders, and substance abuse disorders, among other conditions²⁾. Alexithymia is now considered a possible risk factor in various psychiatric diseases.

Historically, based on extensive clinical observations, alexithymic patients has been reported and paid attention to as a poor responder to psychoanalysis or other insight-oriented forms of psychotherapy²⁾. On the other hand, in Japan, treatment resistant modern type of depression has increased, and heterogeneity of major depression has been paid attention³⁾. But, the influence of alexithymia on the prognosis of major depression is still unclear⁴⁾.

In the STAR*D study, after an unsatisfactory response to citalopram (Level 1 treatment), patients who consented to random assignment to either cognitive therapy or alternative pharmacologic strategies (Level 2 treatment) had generally comparable outcomes. Level 2 treatment, whether cognitive therapy or alternative pharmacologic strategies, resulted in having less response rates than Level 1 treatment^{5,6)}. That is, a poor responder to pharmacotherapy might be also a poor responder to psychotherapy, and both therapies are similar in response rates in major depressive disorder patients. Moreover, in major depressive disorder patients, pharmacotherapy and psychotherapy has considerable similar changes between before and after treatments in the brain function^{7,8)}. Therefore, alexithymic major depressive disorder patients who might be treatment resistant to psychotherapy also might be treatment resistant to pharmacotherapy.

Major depression is a common disease, with 15% life prevalence⁹⁾. However, about 20% -30% of patients with major depression have been reported to be treatment-resistant^{5,10)}. Investigations of the factors related to the prognoses of major depression are important for the development of more effective treatments.

The purpose of the present study was to explore whether alexithymia predicts the prognosis of patients with major depression treated with pharmacotherapy.

METHODS

1. Study sample and procedure

Patients meeting the following criteria were drawn consecutively from the inpatient population of the Psychiatry Unit of Hiroshima University Hospital during the 23-month period from January 2003 to November 2004:

- (1) A psychiatric diagnosis of major depressive episode (major depression) was determined according to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) by a trained psychiatrist at the patient's admission
- (2) 20 years of age or older
- (3) absence of cognitive impairment
- (4) absence of a history of manic or hypomanic episodes
- (5) absence of the other axis I psychiatric disorders

This study was approved by the Institutional Review Board and the Ethics Committee of Hiroshima University Hospital, Japan. Written informed consent was obtained from each subject before the start of this study. Patients were treated with pharmacotherapy and supportive therapy (mainly with pharmacotherapy) in a naturalistic setting.

First, eligible patients received an explanation of this study from their physician in the Psychia-

try Division, and then, if they consented to participate, were fully informed of the purpose of the study. Written consent was obtained from eligible patients, and an interview was then arranged at a day (Time1: baseline) within one week from the day of admission to the psychiatric ward. Sociodemographic and medical data were obtained from the patient's medical record and in a structured interview by a trained psychiatrist.

At 6 months after the patient's discharge (Time2), outcome data (i.e., presence or absence of being at work, readmission to the psychiatric ward after discharge) and amounts of antidepressant taken daily (converted to imipramine equivalent) at discharge were obtained from their brief interview and from their medical record. Being at work means that not only being registered to his/her office but also really (and regularly) working then, without regard to full time or part time. Because alexithymic patients have difficulty of identifying feelings, we adopted not the index of depressive symptoms but the indices of social functioning such as being at work or readmission as outcome variables.

2. Measurement

Zung Self-rating Depression Scale (SDS)

The degree of depression was measured by the Japanese version of the Zung Self-rating Depression Scale (SDS). The SDS is a self-report questionnaire with 20 items rated on a four-point scale¹¹⁾. Fukuda and Kobayashi¹²⁾ reported that the Japanese version of the SDS has high validity and reliability. A high SDS score indicates a high degree of depression.

The 20-Item Toronto Alexithymia Scale (TAS-20)

The degree of alexithymia was measured using the Japanese version of the 20-Item Toronto Alexithymia Scale (TAS-20). The TAS-20 is a self-report questionnaire with 20 items rated on a five-point scale with a three-factor structure: (1)

difficulty in identifying feelings, (2) difficulty in describing feelings, and (3) externally oriented thinking. Previous studies indicated that the TAS-20 has adequate validity and reliability^{13, 14)} and that the Japanese version of the TAS-20 has high construct validity and reliability¹⁵⁾. In the present study, the TAS-20 total score was used as an index of the degree of alexithymia, with a high TAS-20 score indicating a high degree of alexithymia.

3. Statistical analysis

The presence versus absence of being at work (employment) at Time2, and readmission versus no readmission during the 6-month period from discharge were entered into the analysis as dependent variables. Associated factors were assessed by univariate and multivariate analyses. First, we performed a univariate analysis between the presence/absence of being at work at Time2 and the presence/absence of readmission during the 6-month post-discharge period, and then we examined the patients' sociodemographic and medical factors (at Time1, except for the amounts of antidepressant) to determine possible independent variables by the chi-square test, T-test, or Mann-Whitney U-test. Dummy variables were used when independent variables were categorical.

We then determined the final risk factors by applying a stepwise logistic regression analysis with the presence/absence of being at work at Time2 or the presence/absence of readmission during the 6-month post-discharge period as the dependent variables, entering all independent variables. Differences with a p-value <0.05 were considered significant, and p-values <0.15 were considered a significant tendency. All p-values reported here are two-tailed. We used SPSS Version 10.0J statistical software (SPSS, Chicago, IL, USA) for all of the data analyses.

Table 1. Univariate analysis of the factors associated with presence of being at work at 6 months after discharge in patients with major depression (n=26)

Patient characteristics at baseline		Being at work		p-value
		Present (n=10)	Absent (n=16)	
Gender				
Male	18	8	10	0.347*
Female	8	2	6	
Age (years)	48.8 ± 12.2 [†]	44.4 ± 13.0 [†]	51.5 ± 11.3 [†]	0.154**
Education (years)	13.5 ± 3.0 [†]	13.8 ± 2.4 [†]	13.4 ± 3.5 [†]	0.737**
Marital status				
Married	23	8	15	0.286*
Unmarried	3	2	1	
Employment status				
Employed	13	7	6	0.107*
Unemployed	13	3	10	
Family history of psychiatric disease				
Yes	6	2	4	0.768*
No	20	8	12	
SDS	49.8 ± 9.7 [†]	46.7 ± 10.8 [†]	51.8 ± 8.8 [†]	0.315***
TAS-20	56.5 ± 7.9 [†]	53.1 ± 8.3 [†]	58.7 ± 7.1 [†]	0.050***
Antidepressant (mg)*	157.7 ± 115.0 [†]	170.0 ± 107.7 [†]	150.0 ± 122.2 [†]	0.676**
Hospitalization (days)	49.7 ± 25.6 [†]	41.5 ± 16.2 [†]	54.8 ± 29.3 [†]	0.203**

* chi-square test, ** t-test, *** Mann-Whitney U-test

* Imipramine equivalent amount (at discharge)

[†] mean ± SE

RESULTS

1. Patient characteristics

Of the 34 eligible patients, 8 (23.5%) declined to participate in the study. Thus, the data available for the 26 patients (76.5%) who responded were used in the analysis. Age, gender, and psychiatric diagnosis data for the 8 patients who were eligible but did not participate in the study were available. There were no significant differences between the participants (n=26) and non-participants (n=8) in any available data.

The participating patients' characteristics (Table 1) include the following: 18 males (69.2%), 8 females; the mean age was 48.8 ± 12.2 (standard deviation [SD]); the mean years of education was 13.5 ± 3.0; 23 (88.5%) were married; 13 (50.0%) were not employed; 6 (23.0%) patients had a

family history of psychiatric disease; the mean amount of daily antidepressant was 157.7 ± 115.0 mg; the mean duration of hospitalization was 49.7 ± 25.6 days.

2. Factors correlated with being at work and readmission in patients

Table 1 summarizes the results of the univariate analysis of the factors associated with being at work at Time2 among the participants with major depression. Among the investigated variables, being employed (p=0.107), and low TAS-20 score (p=0.050) showed a tendency of being associated with being at work at Time2 in the participants with major depression.

Similarly, the univariate analysis of the factors associated with readmission during the 6-month post-discharge period in the participants with major depression were performed. Among the

Table 2. Logistic regression analysis of the factors associated with presence of being at work at 6 months after discharge in patients with major depression (n=26)

	Beta	SE	Odds ratio	95% CI	p
Marital status	- 5.818	2.584	0.003	0.000-0.471	0.024
TAS-20	- 0.217	0.107	0.805	0.653-0.993	0.043
Employment status	2.573	1.532	13.102	0.650-263.880	0.093

R^2 (Cox & Snell) = 0.393, R^2 (Nagelkerke) = 0.533

investigated variables, a family history of psychiatric treatment ($p=0.146$) showed a tendency of being associated with readmission during the 6-month post-discharge period.

Table 2 shows the results of the logistic regression analysis of factors associated with being at work at Time2 in the participants with major depression. The factors associated with being at work at Time2 in the participants with major depression were being unmarried ($p=0.024$) and low TAS-20 score ($p=0.043$).

We also conducted a logistic analysis to identify the factors associated with readmission during the 6-month post-discharge period in the participants with major depression. We found that no factors were significantly associated with readmission during the 6-month post-discharge period in this group.

DISCUSSION

We found that in patients with major depression, low degrees of alexithymia and unmarried status might be related to being at work at 6 months after hospitalization.

1. Factors related to being at work in patients with major depression

Low degrees of alexithymia was correlated with being at work at 6 months post-hospitalization in the patients with major depression. Conversely, high degrees of alexithymia was correlated with not being at work in this population.

Although the reason for this correlation is not

clear, there are several possible explanations. The salient feature of alexithymia is difficulty identifying and describing subjective feelings¹⁾. That is, not being at work in alexithymic people may be related to a deficit in emotional regulation that reflects both deficits in the cognitive-experiential component of emotion response systems (i.e., deficits in the top-down regulation from the higher-order brain regions, such as language areas to the limbic structure) and deficits at the level of interpersonal regulation of emotion (i.e., an inability to express one's emotions and to get support from others)¹⁶⁾.

On the other hand, one of the salient features of alexithymia is constricted imaginal capacities¹⁾. Our previous findings suggested that alexithymic people have a disturbance of future happy imagery¹⁷⁾. Thus, alexithymic people might have difficulty in producing future happy imagery about their working life, and this could reduce their motivation for work.

Moreover, brain regions which have been reported to be associated with improvement of major depression treated with pharmacotherapy (prefrontal cortex, left anterior cingulate gyrus, left temporal lobe)^{7,8)} and brain regions which have been reported to be associated with alexithymia (frontocingulate cortex, anterior cingulate cortex, insula, posterior cingulate cortex, medial prefrontal cortex, parietal cortex, premotor cortex)¹⁸⁾ are different although they have considerable overlap. In other words, alexithymic patients might have both different and common impairment of the neural networks com-

pared with the ones which are associated with improvement of major depression treated with pharmacotherapy. This might be one reason of poor response to pharmacotherapy in alexithymic patients with major depression.

The studies that investigated whether alexithymia is a factor that can predict the prognosis of depressive disorder or depressive state are very scarce. In one study¹⁹⁾, 230 outpatients receiving chronic hemodialysis (HD) therapy completed the Beck Depression Inventory-II (BDI-II), the TAS-20, and two subscales of the Social Support Questionnaire. The BDI-II was readministered after a 6-month interval. Deterioration of depression after 6 months was predicted by the presence of alexithymia and poor available support. Our present findings support the Kojima study's contention that alexithymia is one of the predictive factors for the deterioration of depression. Moreover, our findings suggest that alexithymia might hinder the pharmacotherapeutic outcome of major depression in the adjustment to work.

To our surprise, unmarried state was correlated with being at work at 6 months after hospitalization in the patients with major depression. In other words, married state was correlated with not being at work in this population. It is well known that discord within families or within couples worsens the prognosis of depression²⁰⁾. Thus, this result was unexpected. In the present study, the reason why married status was related to not being at work is not known, in part because the details of the patients' family functioning were not investigated. Another study that includes the assessment of the patients' families is needed.

2. Predictors for readmission

No factor was significantly associated with readmission during the 6-month post-discharge period in the participants with major depression.

The recurrence of major depression was reported to be associated with bipolarity²¹⁾. Personality traits other than alexithymia, e.g., neuroticism²²⁾ and social support (e.g., family function²⁰⁾ are also known as predictors for the prognosis of major depression. Further studies including these factors are necessary to identify the predictive factors associated with readmission in patients with major depression.

3. Suggestion for treatment

Alexithymia has been assumed to be negatively associated with psychotherapeutic outcome. Although few empirical studies have examined this issue, recently some studies investigated whether alexithymia really hinder the psychotherapeutic outcome.

In Grabe's study, alexithymic and nonalexithymic inpatients were treated with psychodynamic group therapy. After the treatment, alexithymic patients suffered from higher psychopathological distress at discharge than nonalexithymics²³⁾. Ogrodniczuk reviewed findings from a series of studies that examined the effect of alexithymia on various aspects of the psychotherapeutic enterprise. Alexithymia was associated with poor outcome in both traditional psychodynamic psychotherapy and supportive therapy²⁴⁾.

On the other hand, different findings were reported in cognitive behavior therapy studies. Fifty-five consecutive outpatients with panic disorder received short-term cognitive-behavioral group therapy (CBGT) and were followed up 6 months later. CBGT outcome does not appear to be negatively affected by alexithymia²⁵⁾. Ruffer also conducted a prospective study with 42 inpatients with obsessive-compulsive disorder (OCD) receiving intensive, multimodal cognitive-behavioral therapy (CBT). Alexithymia scores did not predict response to multimodal CBT in the OCD patients²⁶⁾. A total of 201 participants with sub-

threshold depression were treated with cognitive behaviour therapy and were followed up for 1 year. Baseline alexithymia scores were not correlated with treatment outcome²⁷⁾. Furthermore, in the study of one hundred alcohol-dependent inpatients, High alexithymic patients did benefit equally from inpatient CBT-like treatment as low alexithymic patients²⁸⁾.

Thus, although the traditional assumption about poor psychotherapeutic outcome in alexithymic patients may fit the case of psychodynamic psychotherapy or supportive therapy, it might not fit the case of cognitive behaviour therapy. It is consistent with this study's outcome because our patients were treated with pharmacotherapy and supportive therapy. Therefore, it might be useful to add cognitive behaviour therapy to pharmacotherapy for alexithymic major depression patients who are resistant to pharmacotherapy.

There are several limitations to this study. First, because the sample size of participants was small, other important factors related to patient prognosis regarding work and readmission may have been overlooked. For example, family history tended to be correlated with readmission during the 6-month post-discharge period in the patients with major depression in the univariate analysis but not in the logistic regression analysis. Second, other factors not assessed in this study might be correlated with prognosis regarding work and readmission (e.g., other personality characteristics or social support issues). Finally, because TAS-20 was administered only once at baseline, whether alexithymic features measured in this study have state or trait characteristics is unknown. However, a longitudinal study of major depression patients revealed that alexithymia scores at baseline correlated significantly with alexithymia scores at follow-up, and suggested that alexithymia has trait characteristics in this population^{29, 30)}.

In conclusion, the present findings suggested that alexithymia might be associated with the 6-month prognosis regarding work state in patients with major depression treated with pharmacotherapy. It has been noted that the DSM-IV(-TR) diagnosis of major depression has heterogeneous characteristics^{31, 32)}, so it might be useful to take care in putting alexithymia into perspective when we intervene to improve the prognosis of work state in patients with major depression. Although the present study has several limitations, its results are meaningful as a first report demonstrating that alexithymia might hinder the pharmacotherapeutic outcome of major depression. We also suggested cognitive behaviour therapy may be useful for these alexithymic patients according to recent literature of alexithymia. In future studies, a detailed investigation of personality characteristics such as alexithymia is needed in order to formulate strategies to improve the prognosis of patients with major depression.

References

- 1) Nemiah JC, Freyberger H, Sifneos PE : Alexithymia: a view of the psychosomatic process. In Hill OW (eds): *Modern trends in psychosomatic medicine*. vol. 3. Butterworths, London, 430-439, 1976
- 2) Taylor GJ, Bagby RM, Parker JDA : *Disorder of Affect Regulation Alexithymia in medical and psychiatric illness*, Cambridge University Press, Cambridge, 1997
- 3) Kato TA, Shinfuku N, Fujisawa D, et al : Introducing the concept of modern depression in Japan; an international case vignette survey. *J Affect Disord* 135 : 66-76, 2011
- 4) Kojima M : Alexithymia as a prognostic risk factor for health problems: a brief review of epidemiological studies. *Biopsychosoc Med* 6 (1) : 21, 2012
- 5) Rush AJ, Trivedi MH, Wisniewski SR, et al :

- Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: a STAR*D report. *Am J Psychiatry* 163 : 1905-1917, 2006
- 6) Thase ME, Friedman ES, Biggs MM, et al : Cognitive therapy versus medication in augmentation and switch strategies as second-step treatments: a STAR*D report. *Am J Psychiatry* 164(5) : 739-752, 2007
 - 7) Brody AL, Saxena S, Stoessel P, et al : Regional brain metabolic changes in patients with major depression treated with either paroxetine or interpersonal therapy: preliminary findings. *Arch Gen Psychiatry* 58(7) : 631-640, 2001
 - 8) Martin SD, Martin E, Rai SS, et al : Brain blood flow changes in depressed patients treated with interpersonal psychotherapy or venlafaxine hydrochloride: preliminary findings. *Arch Gen Psychiatry* 58(7) : 641-648, 2001
 - 9) Sadock BJ, Sadock VA (eds): *Synopsis of Psychiatry* 9th edition, Lippincott Williams & Wilkins, Baltimore, 2002
 - 10) Guscott R, Grof P : The clinical meaning of refractory depression; a review for the clinician. *Am J Psychiatry* 148 : 695-704, 1991
 - 11) Zung WWK : A self-rating depression scale. *Arch Gen Psychiatry* 12 : 63-70, 1965
 - 12) Fukuda K, Kobayashi S : A study on a self-rating depression scale. *Seishin Shinkeigaku Zasshi* 75 : 673-679, 1973
 - 13) Bagby RM, Parker JDA, Taylor GJ : The twenty-item toronto alexithymia scale-I. Item selection and cross validation of the factor structure. *J Psychosom Res* 38 : 23-32, 1994
 - 14) Bagby RM, Taylor GJ, Parker JDA : The twenty-item toronto alexithymia scale-II. Convergent, discriminant, and concurrent validity. *J Psychosom Res* 38 : 33-40, 1994
 - 15) Fukunishi I, Nakagawa T, Nakamura H, et al : Is alexithymic construct a culture-bound? Validity and reliability of the Japanese version of the 20-item Toronto Alexithymia Scale (TAS-20) and modified Beth Israel Hospital Psychosomatic Questionnaire (BIQ). *Psychol Rep* 80 : 787-799, 1997
 - 16) Taylor GJ : Recent developments in alexithymia theory and research. *Can J Psychiatry* 45 : 134-142, 2000
 - 17) Mantani T, Okamoto Y, Shirao N, et al : Reduced activation of posterior cingulate cortex during imagery in subjects with high degrees of alexithymia: a functional magnetic resonance imaging study. *Biol Psychiatry* 57 : 982-990, 2005
 - 18) Moriguchi Y, Komaki G : Neuroimaging studies of alexithymia: physical, affective, and social perspectives. *Biopsychosoc Med* 7 : 8 : 1-12, 2013
 - 19) Kojima M, Hayano J, Tokudome S, et al : Independent associations of alexithymia and social support with depression in hemodialysis patients. *J Psychosom Res* 63(4) : 349-356, 2007
 - 20) Keitner GI, Miller IW : Family functioning and major depression: an overview. *Am J Psychiatry* 147(9) : 1128-1137, 1990
 - 21) Ghaemi SN, Ko JY, Goodwin FK : "Cade's disease" and beyond: misdiagnosis, antidepressant use, and a proposed definition for bipolar spectrum disorder. *Can J Psychiatry* 47 (2) : 125-134, 2002
 - 22) Boyce P, Parker G : Neuroticism as a predictor of outcome in depression. *J Nerv Ment Dis* 173 (11) : 685-688, 1985
 - 23) Grabe HJ, Frommer J, Ankerhold A, et al : Alexithymia and outcome in psychotherapy. *Psychother Psychosom* 77(3) : 189-194, 2008
 - 24) Ogrodniczuk JS, Piper WE, Joyce AS : Effect of alexithymia on the process and outcome of psychotherapy: a programmatic review. *Psychiatry Res* 190(1) : 43-48, 2011
 - 25) Rufer M, Albrecht R, Zaum J, et al : Impact of alexithymia on treatment outcome: a naturalistic study of short-term cognitive-behavioral group therapy for panic disorder. *Psychopathology* 43(3) : 170-179, 2010
 - 26) Rufer M, Hand I, Braatz A, et al : A prospective study of alexithymia in obsessive-compulsive patients treated with multimodal cognitive-behavioral therapy. *Psychother Psychosom* 73(2) : 101-106, 2004
 - 27) Spek V, Nyklíček I, Cuijpers P, et al : Alexithymia and cognitive behaviour therapy outcome

- for subthreshold depression. *Acta Psychiatr Scand* 118(2) : 164-167, 2008
- 28) de Haan HA, Schellekens AF, van der Palen J, et al : The level of alexithymia in alcohol-dependent patients does not influence outcomes after inpatient treatment. *Am J Drug Alcohol Abuse* 38(4) : 299-304, 2012
- 29) Luminet O, Bagby RM, Taylor GJ : An evaluation of the absolute and relative stability of alexithymia in patients with major depression. *Psychother Psychosom* 70(5) : 254-260, 2001
- 30) Saarijarvi S, Salminen JK, Toikka T : Temporal stability of alexithymia over a five-year period in outpatients with major depression. *Psychother Psychosom* 75(2) : 107-112, 2006
- 31) Akiskal HS, Benazzi F : Atypical depression: a variant of bipolar II or a bridge between unipolar and bipolar II? *J Affect Disord* 84 : 209-217, 2005
- 32) Parker G, Fink M, Shorter E, et al : Issues for DSM-5: Whither Melancholia? The case for its classification as a distinct mood disorder. *Am J Psychiatry* 167(7) : 745-747, 2010

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アレキシサイミアが大うつ病患者の予後に及ぼす影響に関する研究

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【要約】 背景：アレキシサイミアは精神療法の予後を悪化させることが報告されてきた。しかし、アレキシサイミアが薬物療法の予後に与える影響については知られていない。

方法：大うつ病の入院患者 26 名について前方視的に調査した。患者は通常の臨床設定で薬物療法を受けた。入院時に種々の社会医学的項目と TAS-20, SDS を、退院 6 カ月後に就労の有無と再入院の有無を調査した。

結果：ロジスティック回帰分析の結果、退院 6 カ月後の就労の有無に影響を与える有意な因子は、入院時のアレキシサイミアの程度と婚姻の有無だった。再入院の有無に影響を与える有意な因子は存在しなかった。

結論：本研究では、アレキシサイミアは薬物療法を受けた大うつ病患者の予後と関連していた。大うつ病患者の予後を改善するために、アレキシサイミアを考慮した治療戦略を検討することが有用かもしれない。

キーワード：アレキシサイミア, 大うつ病, 予後, 薬物療法

The Japanese Breast Cancer Society clinical practice guideline for epidemiology and prevention of breast cancer

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Descriptive epidemiology of breast cancer in Japan

Mortality

The vital statistics of the Ministry of Health, Labour and Welfare show that the crude and age-adjusted death rates of patients with breast cancer increased consistently from the 1960s to 2011, but decreased in 2012. The number of deaths due to breast cancer in women was 12,529 in 2012. The crude death rate was 19.4 per 0.1 million population and ranked fifth highest, behind colon/rectum, lung, stomach, and pancreatic cancers in descending order. The

age-adjusted death rate was 11.5 per 0.1 million population, which was second only to colon/rectum cancer and was followed by lung and stomach cancers. The age-specific death rate increased in a linear fashion under the age of 50 and slightly decreased until 80 years old. The age-adjusted death rate from breast cancer in Western countries is substantially greater than that in Japan, but has shown a tendency to decrease after reaching a peak around 1990, and thus the gap with Japan has been reduced [1].

Incidence

The crude and age-adjusted incidences of breast cancer in women have tended to increase since 1975. The crude incidence of breast cancer including carcinoma in situ in

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